

**Palisades Powerplant
100-500 MW**

Ancillary Services

**Palisades
Ancillary Services**

Spinning Reserve	Yes
Non-Spinning Reserve	Yes
Replacement Reserve	Yes
Regulation/Load Following	Yes
Black Start	Yes
Voltage Support	Yes

Generators

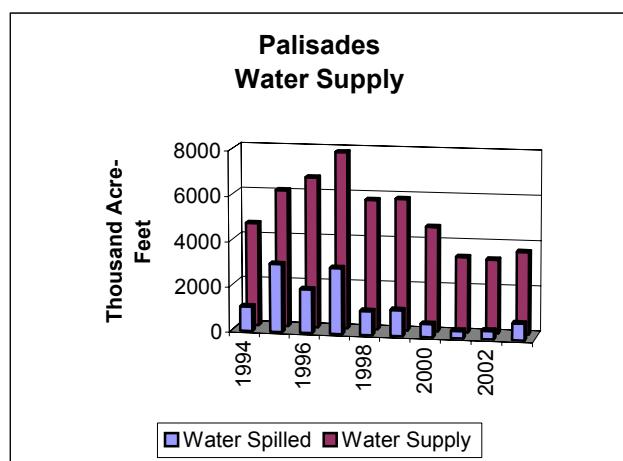
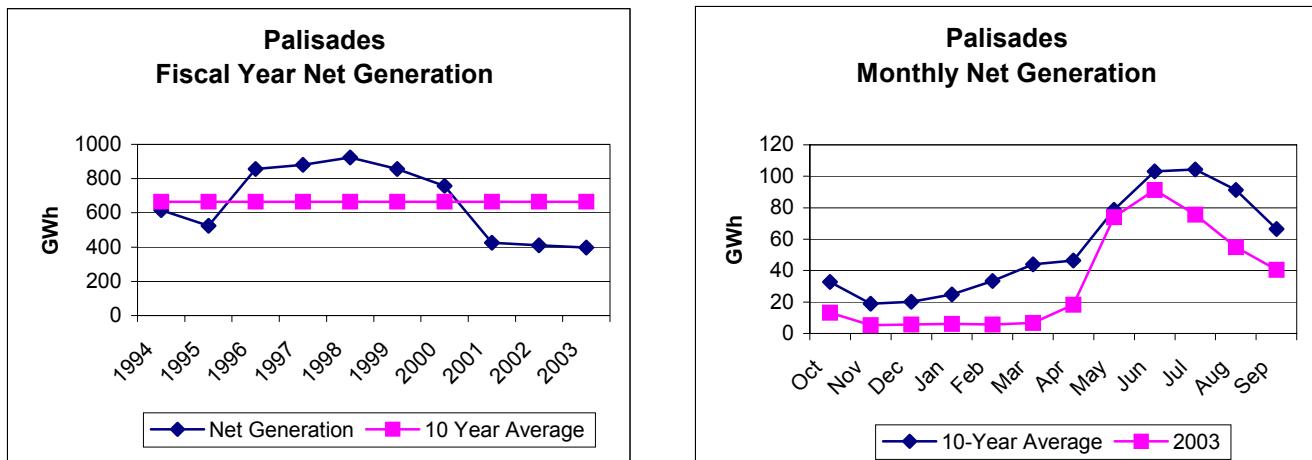
Palisades Generators

Existing Number and Capacity

Unit #	Original Nameplate (kW)	Increased (kW)	Present Nameplate (kW)
1	28,500	15,641	44,141
2	28,500	15,641	44,141
3	28,500	15,641	44,141
4	28,500	15,641	44,141
4 Units	114,000	62,564	176,564

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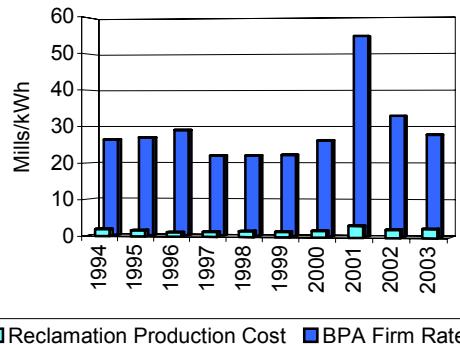
Generation



Prime Laboratory Benchmarks

Benchmark 1 **Wholesale Firm Rate**

Wholesale Firm Rate **Bonneville Power Administration Rate**

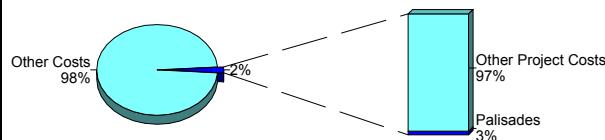


Benchmark 2

Reclamation's Production Cost as Percentage of Wholesale Firm Rate

Reclamation O&M Production Cost as Percentage of Wholesale Firm Rate

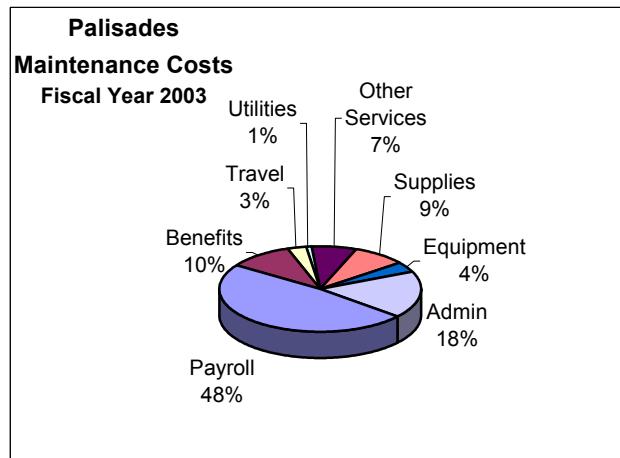
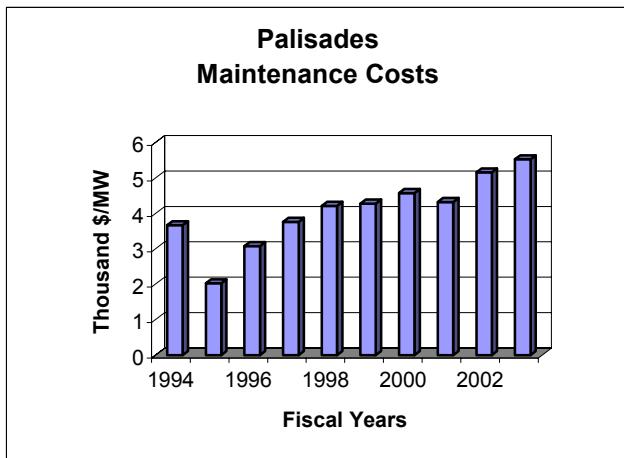
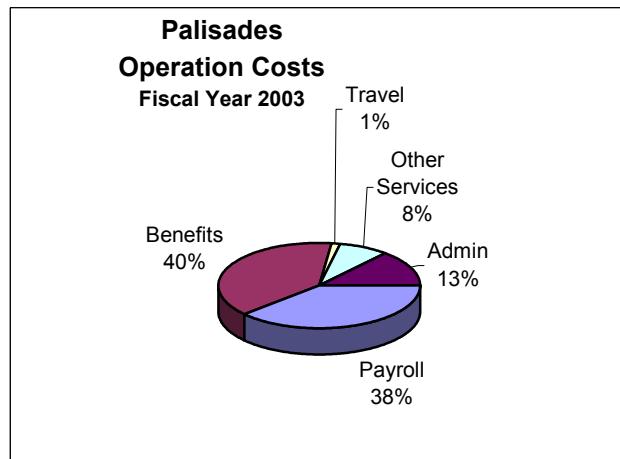
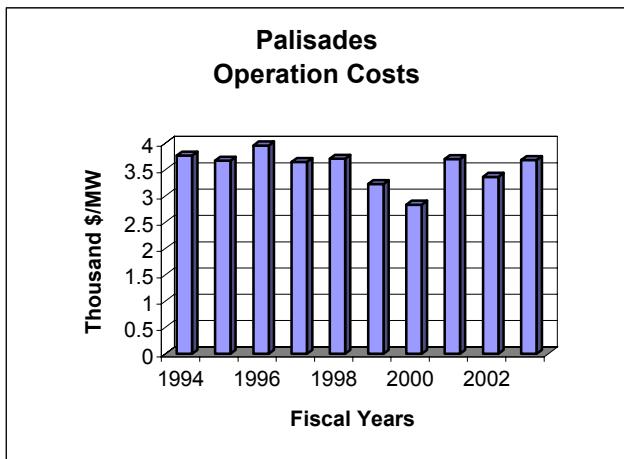
Bonneville Power Admin Project Rate



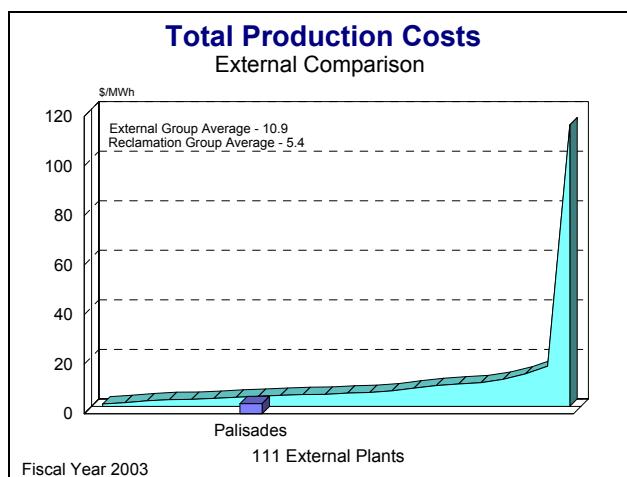
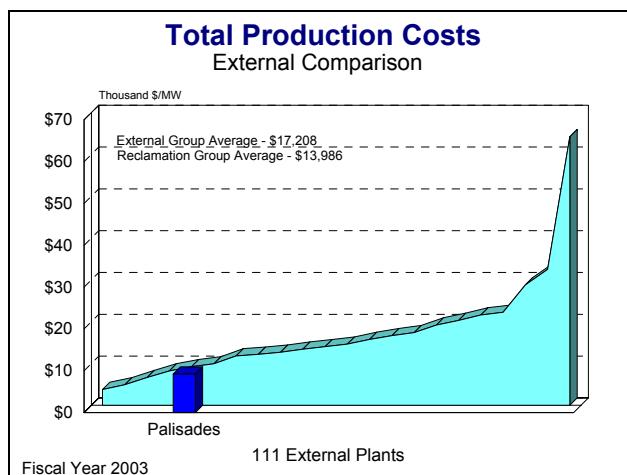
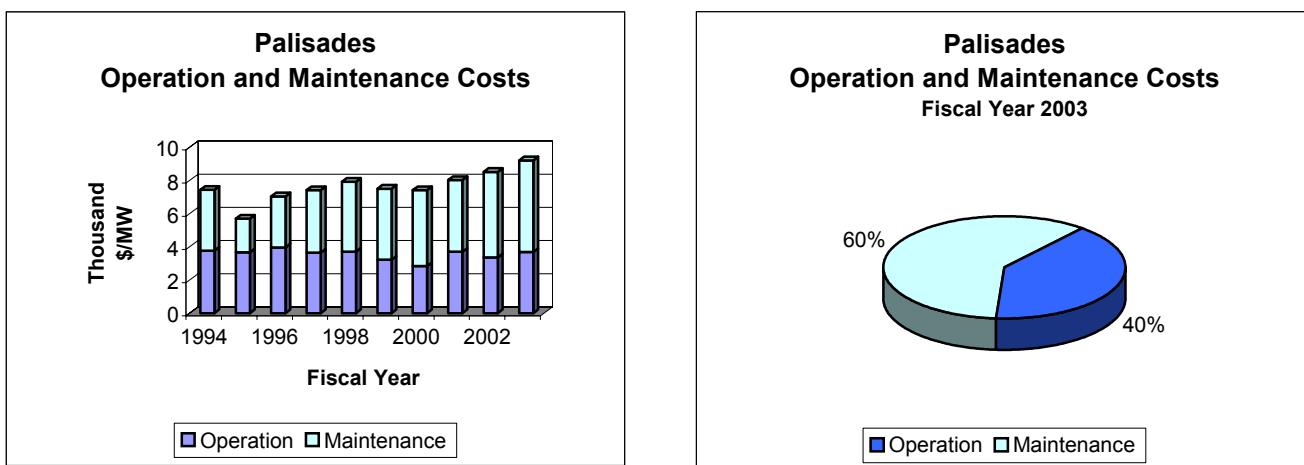
Fiscal Year 2003

Palisades Powerplant
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Benchmark 3
Production Cost



Benchmark 3
Production Cost



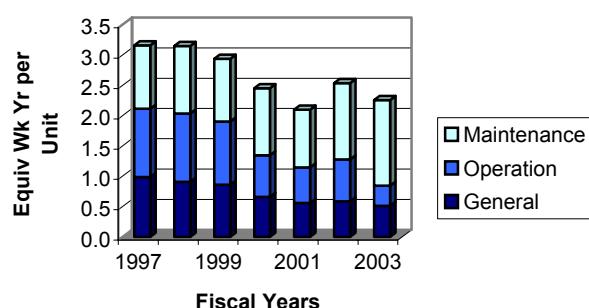
Palisades Powerplant
100-500 MW

Benchmark 4
Workforce Deployment

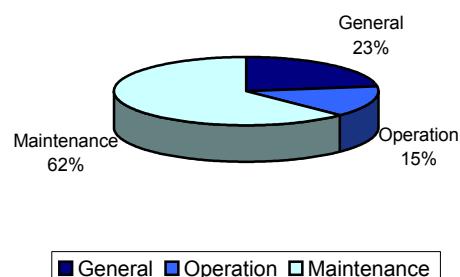
**Palisades
2003 Equivalent
Work Year Levels**

	Equiv Work Year Charged to Powerplant	Leave Additive	Denver and Washington Equiv Work Year Additive	Total Equiv Work Year Allocated to Powerplant	Total Equiv Work year per Generating Unit	Total Equiv Work Year per Megawatt
General	1.77	0.19	0.09	2.06	0.51	0.012
Operation	1.2	0.13	0	1.33	0.33	0.008
Maintenance	5.09	0.56	0	5.65	1.41	0.032
Total Staffing	8.07	0.88	0.09	9.04	2.26	0.05

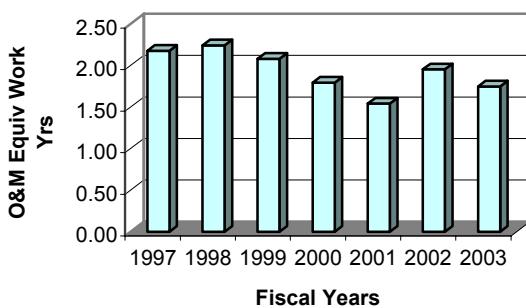
**Palisades
Equivalent Work Year per Unit**



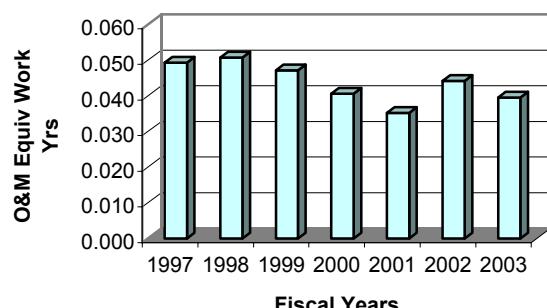
**Palisades
Equivalent Work Year per Unit
2003**



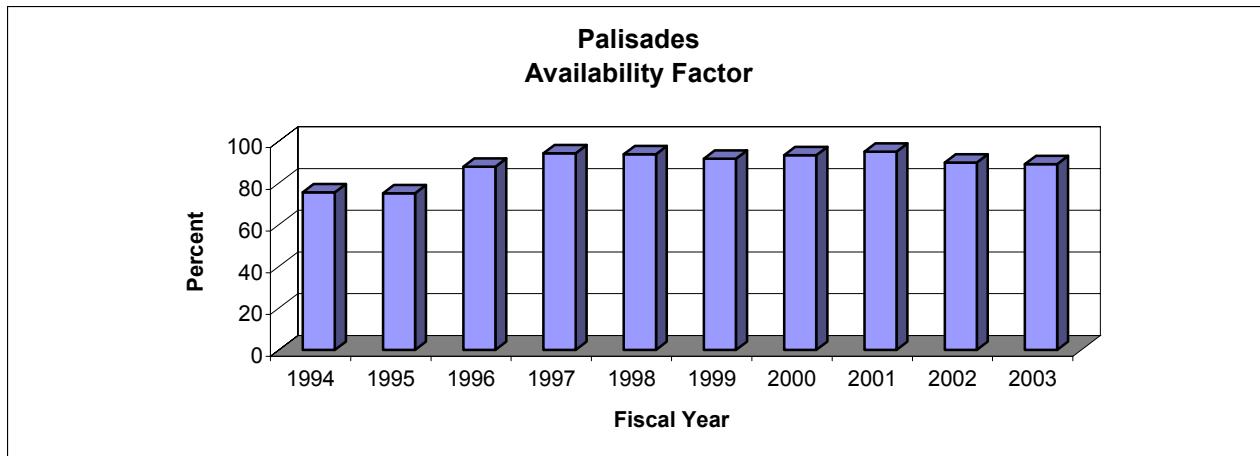
**Palisades
O&M Equivalent Work Years per Unit**



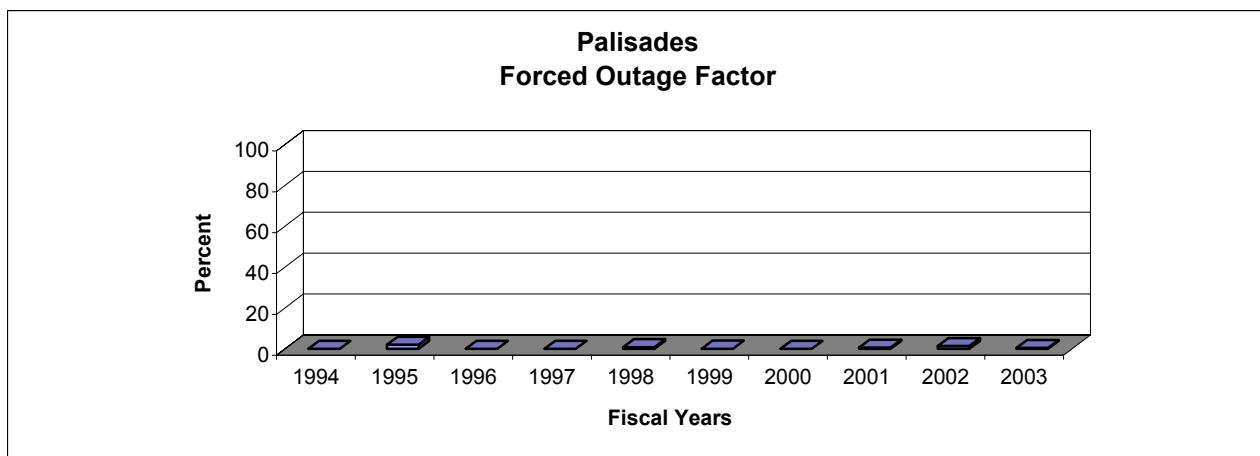
**Palisades
O&M Equivalent Work Years per MW**



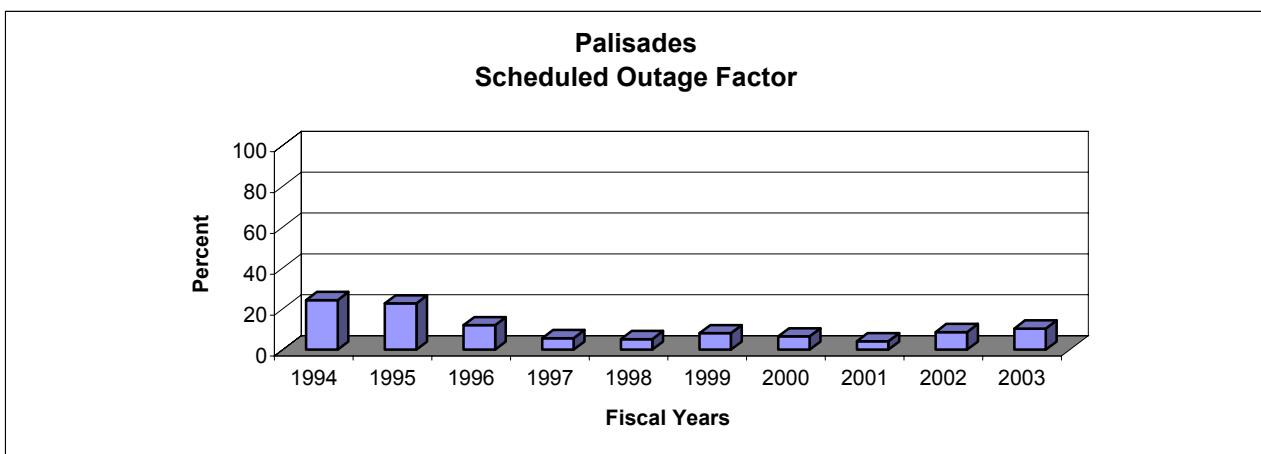
Benchmark 5
Availability Factor



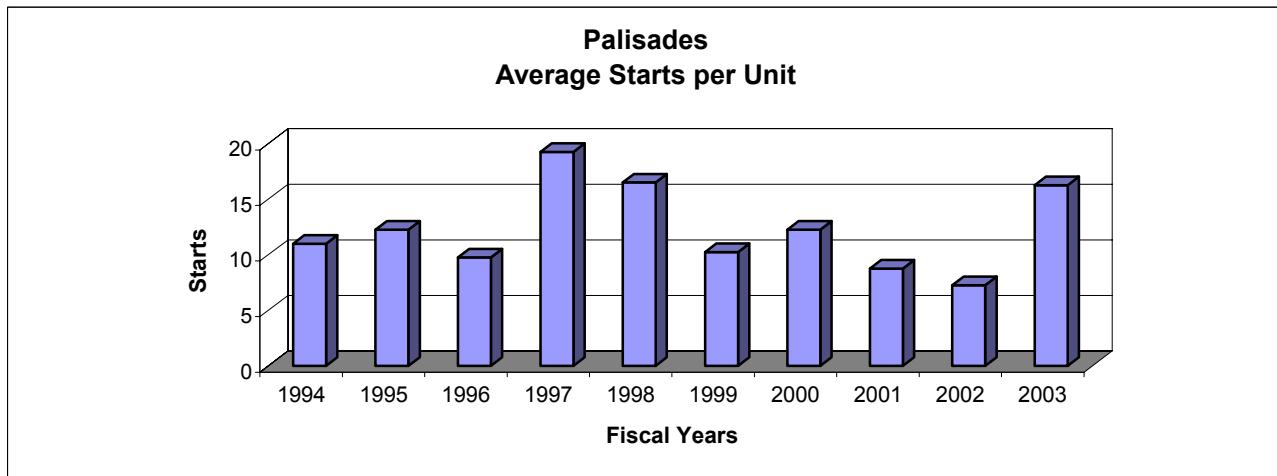
Benchmark 6
Forced Outage Factor



Benchmark 7
Scheduled Outage Factor



Starts



Benchmark Data Comparison

Fiscal Year 2003	Palisades Powerplant	Reclamation Average 100-500 MW Group	Total Reclamation Average	Industry Average	Best Performers
Wholesale Firm Rate Mills/kWh	27.7	Not Applicable	*23.1	Not Available	Not Available
Production Cost as Percentage of Wholesale Firm Rate	0.06%	Not Applicable	12.0%	Not Applicable	Not Applicable
O&M Cost \$/MWh	4.1	4.5	2.7	10.9	1.1
O&M Costs \$/MW	9,211	10,924	7,315	17,261	3,108
O&M Equiv Work Year per MW	0.04	0.1	0.04	Not Available	0.01
Availability Factor	89.1	87.6	83.6	**88.9	99.1
Forced Outage Factor	0.5	0.8	1.5	**2.4	0.0
Scheduled Outage Factor	10.4	11.7	14.9	**8.7	0.0

*Weighted by Net Generation

**2002 NERC Average